MADERARY

ATTORNEY DOCKET NO: AMKOR-052A TITLE: LEADFRAME AND SEMICONDUCTOR PACKAGE WITH IMPROVED SOLDER JOINT STRENGTH

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## **TRANSMITTAL FORM**

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Total Number of Pages in This Submission

| Application Number     | 09/687,048          |  |  |  |
|------------------------|---------------------|--|--|--|
| Filing Date            | 10/13/2000          |  |  |  |
| First Named Inventor   | Tae Heon Lee et al. |  |  |  |
| Group Art Unit         | 2814                |  |  |  |
| Examiner Name          | Dilinh P. Nguyen    |  |  |  |
| Attorney Docket Number | AMKOR-052A          |  |  |  |

| ENCLOSURES (check all that apply)                   |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|
| Fee Transmittal For                                 | rm   | Assignment Papers After Allowance Communication to Group   |  |  |  |  |  |  |
| Fee Attache   | d  | Drawing(s)  Appeal Communication to Board of Appeals and Interferences   |  |  |  |  |  |  |
| Amendment / Reply                                   |  | Licensing-related Papers  Appeal Communication to Group  (Appeal Notice, Brief, Reply Brief)                                 |  |  |  |  |  |  |
| After Final   |  | Petition Proprietary Information   |  |  |  |  |  |  |
| Affidavits/declaration(s)                           |  | Petition to Convert to a Provisional Application Status Letter   |  |  |  |  |  |  |
| Extension of Time Request                           |  | Power of Attorney, Revocation Change of Correspondence Address  Other Enclosure(s) (please identify below):                  |  |  |  |  |  |  |
| Express Abandonment Request                         |  | Terminal Disclaimer  Certificate of Mailing; Interview  Summary Record; and Return  Request for Refund  Responsible Postered |  |  |  |  |  |  |
| Information Disclosure Statement                    |  | CD, Number of CD(s)  |  |  |  |  |  |  |
| Certified Copy of Priority Document(s)              |  | Remarks  |  |  |  |  |  |  |
| Response to Missing Parts/ Incomplete Application   |  |  |  |  |  |  |  |  |
| Response to Missing Parts under 37 CFR 1.52 or 1.53 |  |  |  |  |  |  |  |  |
| under 57 GFR 1.32 GF1.33                            |  |  |  |  |  |  |  |  |
| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT          |  |  |  |  |  |  |  |  |
| Firm<br>or<br>Individual name                       | Mark B. Garred STETINA BRUNDA GARRED & BRUCKER |  |  |  |  |  |  |  |
| Signature   | M(>  | <del>Y</del> <del>-</del>  |  |  |  |  |  |  |
| Date  | 8 26 03  |  |  |  |  |  |  |  |
| CERTIFICATE OF MAILING                              |  |  |  |  |  |  |  |  |
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Application No.: 09/687,048

Response to Office Action of: 08/12/2003

Attorney Docket: AMKOR-052A

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| Applicants: | Tae Heon Lee et al.   | )     | Confirmation No. 1120 |                   |
|-------------|---|-------|-----------------------|-------------------|
| Serial No.: | 09/687,048  | )     | Art Unit:             | 2814              |
| Filed:      | 10/13/2000  | )     | Examiner:             | Nguyen, Dilinh P. |
| For:        | Leadframe And Semiconductor<br>Package With Improved Solder<br>Joint Strength | ) ) ) |                       |                   |

## INTERVIEW SUMMARY RECORD

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir/Madam:

Applicant hereby presents a written summary of the telephone interview conducted between the Examiner and Applicant's counsel on July 8, 2003. During this telephone interview, the applicability of the teachings of the Okumura et al. reference to the pending claims of the present application were discussed between the Examiner and Applicant's counsel. More particularly, Applicant's counsel explained that those embodiments of the semiconductor device described in the Okumura et al. reference which appear to depict leads of differing lengths are the fifth embodiment shown in Figures 5(a) and 5(b), and the sixth embodiment shown in Figures 6(a) and 6(b). Applicant also explained that the semiconductor device of the fifth embodiment includes leads 13, with each lead 13 being described in the specification of the Okumura et al. reference as including a stepped portion 22 formed by removing an inner bottom portion thereof to provide enhanced adhesion between the lead 13 and the sealing resin 15. In this regard, Applicant argued that the specification of the Okumura et al. reference and the showings in Figures 5(a) and 5(b) thereof clearly demonstrate that the bottom surfaces of the leads 13 which are actually exposed in the sealing resin 15 are of identical lengths. Along these lines, Applicant further explained that though the half-etched

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portions of the leads 13 which extend inwardly from the stepped portions 22 are of differing lengths, these half-etched portions are completely covered by the sealing resin 15, and are not exposed therein. Applicant indicated that the exposure in the sealing resin 15 of only the identically sized bottom surfaces of the leads 13 as shown in Figure 5(a) and apparent from Figure 5(b) also holds true in relation to the sixth embodiment of the semiconductor device shown in Figures 6(a) and 6(b) of the Okumura et al. reference.

During the telephone interview, Applicant also contrasted the teachings of the Okumura et al. reference to pending independent Claims 16, 25 and 31. More particularly, Applicant explained that the leads are specifically described in each of these independent claims as being configured such that the bottom surfaces thereof which are exposed in the encapsulation material are of at least two different lengths. At the end of the interview and in response to the Examiner's request, Applicant agreed to attempt to make some amendments to the pending independent claims solely for the purpose of stating even more clearly that the bottom surfaces of the leads which are exposed in the encapsulation material are of at least two different lengths.

Date: 8/26/03

Customer No.: 007663

Respectfully submitted,

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